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Geneticists Joanne Chory and Elliot Meyerowitz Share \$500,000 Gruber Genetics Prize for Their Pioneering Work on the Regulatory and Biochemical Mechanisms that Govern Plant Development



Joanne Chory



Elliot Meyerowitz

May 10, 2018, New Haven, CT – The 2018 Gruber Genetics Prize is being awarded to geneticists Joanne Chory, PhD, of the Salk Institute for Biological Studies and Elliot Meyerowitz, PhD, of the California Institute of Technology (Caltech). These two renowned scientists are receiving this prestigious prize for their groundbreaking work in identifying the basic regulatory and biochemical mechanisms underlying the development of plants. Their discoveries revolutionized the field of plant molecular biology, with broad implications for global agriculture, the environment, and human health and disease.

The prize, which includes a \$500,000 award, will be presented to Chory and Meyerowitz in Iguaçu Falls, Brazil, on September 12 at the XXII International Congress of Genetics. “The influence of these two visionary scientists on the field of plant molecular biology cannot be overstated,” says Utpal Banerjee, professor, University of California, Los Angeles and member of the Selection Advisory Board to the Prize. “Without their contributions, our understanding of plant genetics — knowledge that is essential if we are to meet the food and environmental challenges of the future — would not be anywhere close to where it is today.”

Chory and Meyerowitz began their careers in the early 1980s, when molecular biology was still an emerging field. At the time, most genetics labs were focusing on fruit flies, but Chory and Meyerowitz saw plant genetics as an exciting and promising area of research. They recognized early on that understanding the genes and molecular processes that govern the growth of plants could provide important insights into some of the unanswered questions about similar processes in other organisms, including humans.

They also knew that unraveling the mysteries of plant genetics was key to advancing the global sustainability of agriculture and the environment.

The Gruber Foundation is recognizing Chory for her discovery and characterization of the hormonal signaling mechanisms that are central to how plants regulate their growth in response to light and other environmental signals. Meyerowitz is being recognized for his pioneering use of *Arabidopsis thaliana* for the study of plant development. He also discovered the key transcription factors and regulatory mechanisms underlying flower shapes and patterns.

“Both scientists are also renowned for their training and mentoring of young plant biologists and for their tireless advocacy on behalf of the international plant science community,” says Helen Hobbs, professor, University of Texas Southwestern and chair of the Selection Advisory Board to the Prize. “It’s a great honor to be awarding the Gruber Genetics Prize to two such extraordinary people.”

Additional Information

In addition to the cash award, each recipient will receive a gold laureate pin and a citation that reads:

The Gruber Foundation proudly presents the 2018 Genetics Prize to Joanne Chory and Elliot Meyerowitz for their pioneering discoveries in genetic regulatory and biochemical mechanisms underlying plant development.

*Joanne Chory discovered signaling pathways in plants that regulate responses to environmental signals. Elliot Meyerowitz pioneered the use of *Arabidopsis thaliana* to study plant development and he elucidated the regulatory mechanisms underlying flower shapes and patterns.*

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Laureates of the Gruber Genetics Prize:

- **2017: Stephen Elledge**, for discovering and characterizing the molecular mechanisms of the DNA damage response pathway in eukaryotic cells, findings critical for understanding pathogenesis and developing therapies for cancer and other diseases
- **2016: Michael Grunstein and David Allis**, for the discovery of the role of histone proteins and their covalent modification in the regulation of eukaryotic gene expression
- **2015: Emmanuelle Charpentier and Jennifer Doudna**, for establishing a framework for universal genome editing

- **2014: Victor Ambros, David Baulcombe, and Gary Ruvkun**, for pioneering the study of small non-coding RNA's, molecules that are recognized as playing a critical role in regulating gene expression
- **2013: Svante Pääbo**, for pioneering the analysis of ancient DNA
- **2012: Douglas C. Wallace**, for his groundbreaking contributions to mitochondrial genetics
- **2011: Ronald Davis**, for his pioneering development and application of recombinant-DNA techniques
- **2010: Gerald Fink**, whose work in yeast genetics advanced the field of molecular genetics
- **2009: Janet Davison Rowley**, for her seminal discoveries in molecular oncology
- **2008: Allan C. Spradling**, for his work on fly genomics
- **2007: Maynard V. Olson**, for his contributions to genome science
- **2006: Elizabeth H. Blackburn**, for her studies of telomeres and telomerase, and her science advocacy
- **2005: Robert H. Waterston**, for his pivotal role in the Human Genome Project
- **2004: Mary-Claire King**, for three major findings in modern genetics: the similarity of the human and chimpanzee genomes, finding a gene that predisposes to breast cancer, and forensic genetics.
- **2003: David Botstein**, a driving force in modern genetics who established the ground rules for human genetic mapping
- **2002: H. Robert Horvitz**, who defined genetic pathways responsible for programmed cell death
- **2001: Rudolf Jaenisch**, who created the first transgenic mouse to study human disease

The Prize recipients are chosen by the Genetics Selection Advisory Board. Its members are:

Victor Ambros, University of Massachusetts Medical School; **Kathryn Anderson**, Sloan Kettering Institute; **Utpal Banerjee**, University of California Los Angeles; **Marlene Belfort**, University at Albany, SUNY; **Kay Davies**, University of Oxford; **Helen Hobbs**, University of Texas Southwestern (Chair); **James Lupski**, Baylor College of Medicine.

By agreement made in the spring of 2011 The Gruber Foundation has now been established at Yale University.

The Gruber International Prize Program honors individuals in the fields of Cosmology, Genetics and Neuroscience, whose groundbreaking work provides new models that inspire and enable fundamental shifts in knowledge and culture. The Selection Advisory Boards choose individuals whose contributions in their respective fields advance our knowledge and potentially have a profound impact on our lives.

The Genetics Prize is presented to a leading scientist, or up to three, in recognition of groundbreaking contributions to any realm of genetics research.

For more information on the Gruber Prizes, visit www.gruber.yale.edu, e-mail info@gruber.yale.edu or contact A. Sarah Hreha at +1 (203) 432-6231. By mail: The Gruber Foundation, Yale University, Office of Development, PO Box 2038, New Haven, CT 06521.

Media materials and additional background information on the Gruber Prizes can be found at our online newsroom: <https://gruber.yale.edu/news-media>
